

**UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION**

In re Flint Water Cases
5:16-cv-10444/17-cv-10164

Hon. Judith E. Levy
United States District Judge

_____/

This Motion Relates to:

Bellwether III Cases

**BELLWETHER III PLAINTIFFS' MOTION TO COMPREHENSIVELY
EXCLUDE THE NOVEL BIOSOLIDS HYPOTHESIS**

Pursuant to Federal Rule of Evidence 702, Bellwether III Plaintiffs move to exclude Defendants Veolia North America, LLC, Veolia North America, Inc., and Veolia Water North America Operating Services, LLC (“Veolia”) from advancing or otherwise relying on the “novel hypothesis” advanced by Marc Edwards (“Edwards”), Siddhartha Roy (“Roy”), and Min Tang (“Tang”) wherein they utilized biosolids data to estimate water lead release before, during, and after the Flint Water Crisis. As Local Rule 7.1(a) requires, Plaintiffs’ counsel reached out to counsel for Veolia concerning this motion. Counsel for Veolia did not respond.

Dated: April 22, 2024

Respectfully submitted,

LEVY KONIGSBERG LLP

/S/ COREY M. STERN

Corey M. Stern
Moshe Maimon
Melanie Daly

**UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION**

In re Flint Water Cases
5:16-cv-10444/17-cv-10164

Hon. Judith E. Levy
United States District Judge

_____ /

This Motion Relates to:

Bellwether III Cases

_____ /

**BELLWETHER III PLAINTIFFS' MOTION TO COMPREHENSIVELY
EXCLUDE THE NOVEL BIOSOLIDS HYPOTHESIS**

TABLE OF CONTENTS

INTRODUCTION & BACKGROUND.....	1
LEGAL STANDARD	3
ARGUMENT	4
I. THE NOVEL BIOSOLIDS HYPOTHESIS AND THE METHODS EMPLOYED TO SUPPORT IT ARE NOT RELIABLE AND THEREFORE MUST BE EXCLUDED	4
A. The Novel Hypothesis is not based on reliable methods: the methodology is fundamentally flawed.	4
i. Faulty Application of a Purported “One Month Offset”	5
ii. Mismatched Correlation of Mass to Concentration.....	7
iii. Arbitrary Weighted Average of Water Lead Level Data	8
B. The Novel Hypothesis is not based on reliable principals: the methodology constitutes data manipulation and is overall not generally accepted.....	10
i. Data Manipulation.....	10
ii. Overall Failure to Employ Generally Accepted Methods	11
C. The Novel Biosolids Hypothesis is not based on sufficient data: it overlooks crucial data and internal inconsistencies.....	13
i. Failed to Account for Storm Water Discharge	14
ii. Ignored Reliable Data Related to Industrial Discharge	15
iii. Internal Inconsistencies in the Biosolid Data	16
II. VEOLIA CANNOT PRESENT THE NOVEL HYPOTHESIS OR THE CONCLUSIONS THROUGH ITS RETAINED OR NON-RETAINED EXPERTS	18
i. Non-Retained Experts (Edwards).....	19

ii. Retained Experts (Relying On Edwards and his Co-Authors)	20
iii. Retained Experts (Simply Reiterating Edwards’ and his Co-Authors’ Conclusions).....	21
CONCLUSION	25
CERTIFICATE OF SERVICE.....	26

TABLE OF AUTHORITIES

Cases

<i>Amorgianos v. Amtrak</i> , 303 F.3d 256 (2d Cir. 2002).....	20
<i>Arista Recs LLC. v. Usenet.com Inc.</i> , 608 F.Supp.2d 409 (S.D.N.Y. 2009).....	24
<i>Barber v. United Airlines, Inc.</i> , 17 F. App'x 433 (7th Cir. 2001).....	15
<i>Brill v. Marandola</i> , 540 F. Supp. 2d 563 (E.D. Pa. 2008)	5
<i>Brown v. Raymond Corp.</i> , 432 F.3d 640 (6th Cir. 2005)	16
<i>Brown v. Teledyne Cont'l Motors, Inc.</i> , 2007 U.S. Dist. LEXIS 18179 (N.D. Ohio 2007)	22
<i>City of Pomona v. SQM N. Am. Corp.</i> , 750 F.3d 1036 (9th Cir. 2014)	13
<i>Daubert v. Merrell Dow Pharm., Inc.</i> , 509 U.S. 579 (1993)	passim
<i>Deal v. Hamilton Cnty. Bd. of Educ.</i> , 392 F.3d 840 (6th Cir. 2004).....	4
<i>Deutz Corp. v. City Light & Power, Inc.</i> , No. 1:05-cv-3113-GET, 2008 U.S. Dist. LEXIS 110202 (N.D. Ga. Mar. 21, 2008)	22
<i>Downs v. Perstorp Components, Inc.</i> , 126 F. Supp. 2d 1090 (E.D. Tenn. 1999)	8
<i>Ellipsis, Inc. v. Color Works, Inc.</i> , 428 F. Supp. 2d 752 (W.D. Tenn. 2006)	5
<i>Freeport-McMoran Res. Partners Ltd. Pshp. v. B-B Paint Corp.</i> , 56 F. Supp. 2d 823 (E.D. Mich. 1999)	12
<i>General Elec. Co. v. Joiner</i> , 522 U.S. 136 (1997)	10, 20
<i>Gould Elecs. Inc. v. Livingston Cnty. Rd. Comm'n</i> , No. 17-11130, 2020 U.S. Dist. LEXIS 216422 (E.D. Mich. Nov. 19, 2020).....	22
<i>Greenwell v. Boatwright</i> , 184 F.3d 492 (6th Cir. 1999)	9

<i>Guy v. Absopure Water Co., LLC</i> , 2023 U.S. Dist. LEXIS 184818 (E.D. Mich. Oct. 13, 2023)	21
<i>Heller v. Shaw Indus., Inc.</i> , 167 F.3d 146 (3d Cir. 1999)	20
<i>In re Corp. Res. Servs., Inc.</i> , 603 B.R. 888 (Bankr. S.D.N.Y. 2019).....	24
<i>In re Dow Corning Corp.</i> , 211 B.R. 545 (Bankr. E.D. Mich. 1997).....	14
<i>In re Johnson & Johnson Talcum Powder Prods. Mktg., Sales Practices & Prods. Litig.</i> , 509 F. Supp. 3d 116 (D.N.J. 2020)	11
<i>In re Paoli R.R. Yard PCB Litig.</i> , 35 F.3d 717 (3d Cir. 1994).....	3
<i>In re TMI Litig.</i> , 193 F.3d 613 (3d Cir. 1999).....	24
<i>Johnson v. Manitowoc Boom Trucks, Inc.</i> , 406 F. Supp. 2d 852 (M.D. Tenn. 2005)	11
<i>Kitchen v. TTX Co.</i> , Case No. 97 C 5271, 1999 U.S. Dist. LEXIS 9975 (N.D. Ill. June 22, 1999).....	24
<i>Kumho Tire Co. v. Carmichael</i> , 526 U.S. 137 (1999).....	4, 18
<i>LeClercq v. Lockformer Co.</i> , No. 00 C 7164, 2005 U.S. Dist. LEXIS 7602 (N.D. Ill. Apr. 28, 2005)	15
<i>Lighthouse Ranch for Boys, Inc. v. Safepoint Ins. Co.</i> , No. 22-1988, 2023 U.S. Dist. LEXIS 49183 (E.D. La. Mar. 23, 2023).....	19
<i>Loeffel Steel Prods. v. Delta Brands, Inc.</i> , 387 F. Supp. 2d 794 (N.D. Ill. 2005)...7,	22
<i>Meemic Ins. Co. v. Hewlett-Packard Co.</i> , 717 F. Supp. 2d 752 (E.D. Mich. May 13, 2010)	18
<i>Mercurio v. Nissan Motor Corp.</i> , 81 F. Supp. 2d 859 (N.D. Ohio 2000)	24
<i>Mohney v. USA Hockey, Inc.</i> , 138 F. App'x 804 (6th Cir. 2005).....	16, 23

<i>Mohney v. USA Hockey, Inc.</i> , 300 F. Supp. 2d 556, 565 (N.D. Ohio 2004), <i>aff'd</i> , 138 F. App'x 804 (6th Cir. 2005)	21
<i>Moore v. Ashland Chem. Inc.</i> , 151 F.3d 269 (5th Cir. 1998).....	13
<i>Nagle v. Tubular Steel, Inc.</i> , 662 F. Supp. 3d 769 (E.D. Mich. 2023).....	9
<i>Newkirk v. Conagra Foods, Inc.</i> , 727 F. Supp. 2d 1006 (E.D. Wash. 2010).....	17
<i>Rojas v. Marko Zaninovich, Inc.</i> , No. CIV-F-09-0705 AWI JLT, 2011 U.S. Dist. LEXIS 146800 (E.D. Cal. Dec. 21, 2011)	11
<i>State Farm Fire & Cas. Co. v. Electrolux Home Prods., Inc.</i> , 980 F. Supp. 2d 1031 (N.D. Ind. 2013).....	7
<i>Tamraz v. Lincoln Elec. Co.</i> , 620 F.3d 665 (6th Cir. 2010).....	17
<i>Thomas v. Novartis Pharm. Corp.</i> , 443 F. App'x 58 (6th Cir. 2011)	18, 19
<i>U.S.Deutsch v. Novartis Pharm. Corp.</i> , 768 F. Supp. 2d 420 (E.D.N.Y. 2011).....	20
<i>United States v. Semrau</i> , 693 F.3d 510 (6th Cir. 2012)	11
<i>United States v. Smallwood</i> , No. 5:08-CR-38, 2010 U.S. Dist. LEXIS 108671 (W.D. Ky. Oct. 12, 2010), <i>aff'd</i> , 456 F. App'x 563 (6th Cir. 2012).....	17
<i>Valentine v. Jones Lang LaSalle Ams., Inc.</i> , No. 13-cv-10888, 2014 U.S. Dist. LEXIS 138116 (E.D. Mich. Sep. 30, 2014).....	18
<i>Winger v. Jeffreys</i> , No. 19-cv-00236-SPM, 2021 U.S. Dist. LEXIS 227708 (S.D. Ill. Nov. 29, 2021).....	19
Rules	
702	19
Fed. R. Evid 702.....	14, 18, 20
Rule 703	21, 22

INTRODUCTION & BACKGROUND

In defending themselves in this litigation, the Veolia Defendants argue that no act or omission on their part could have caused Plaintiffs' harm, because the Flint Water Crisis – at least in terms of exposure to lead from drinking water – was over by the time they contracted with the City of Flint in February 2015. A cornerstone of this argument is an article published in 2019 by Edwards, Roy and Tang, advancing a “novel hypothesis” regarding estimates for lead levels during the Flint Water Crisis. Ex. 1, (2019 Biosolids Paper).¹ Edwards and his co-authors hypothesized that the levels of lead observed in sewage sludge (“biosolids”) recovered from the Flint Wastewater Treatment Plant (“FWWTP”) could be used as a valid and accurate surrogate to retroactively estimate the water lead levels “pre-, during, and post-Flint Water Crisis.” *Id.* at 475.

In an attempt to support this theory, Edwards and his co-authors compared the water lead level testing done by Virginia Tech² with data provided by the Michigan Department of Environmental Quality (“MDEQ”) regarding lead in biosolids from the FWWTP. In 2020, Edwards and Roy co-authored a supplemental paper, applying

¹ Roy, S., M. Tang, and M. A. Edwards. 2019. *Lead release to potable water during the Flint, Michigan water crisis as revealed by routine biosolids monitoring data*. Water Res 160:475-483.

² As reflected in the 2018 Publication by Pieper et al. See Kelsey J. Pieper et al., *Evaluating Water Lead Levels During the Flint Water Crisis*, 52 Env't. Sci. Tech., 8124-8132 (2018).

this novel analysis to estimate what the 90th percentile water lead levels would have been during the Flint Water Crisis. Ex. 2, (2020 Biosolids Paper).³ The culmination of these two articles (referred to herein collectively as the “Novel Hypothesis” or “Novel Biosolids Hypothesis”) concludes that the Flint Water Crisis was essentially over when Veolia arrived in Flint in February 2015.

However, this Novel Biosolids Hypothesis, as well as the methodology employed to support it (novel in its own right)⁴ entirely fails the reliability requirements of Federal Rule of Evidence 702. In order to prove their Novel Biosolids Hypothesis, Edwards and his co-authors employed methodologies and principals that are not generally accepted: they manipulated data parameters and ignored crucial data points and internal inconsistencies. Moreover, when tested without the data manipulation employed, the purported strong correlation between lead in biosolids and lead in water completely falls apart and actually shows the opposite of the authors’ published conclusions. *See Generally* Ex. 3, (Declaration of

³ Roy, S., and M. A. Edwards. 2020b. *Efficacy of corrosion control and pipe replacement in reducing citywide lead exposure during the Flint, MI water system recovery*. Environmental Science: Water Research & Technology 6 (11):3024-3031.

⁴ Indeed, the authors themselves describe their methodology as a “novel assessment” and a “novel approach. Ex. 1, (2019 Biosolids Paper) at 481; Ex. 2, (2020 Biosolids Paper) at 3024.

David Madigan, Ph.D. referred hereafter as “Madigan Decl.”); Ex. 4, (Declaration of Shawn McElmurry, Ph.D. referred hereafter as “McElmurry Decl.”).⁵

Veolia seeks to present the Novel Biosolids Hypothesis to the jury at every turn. They identify Edwards as a non-retained expert, disclosing the 2019 and 2020 papers as the subject of his testimony. Then, concerned that Edwards will not come to trial to testify, Veolia pivots to another strategy, whereby they attempt to backdoor the Novel Biosolids Hypothesis into evidence by having their retained experts conclude from and/or simply repeat the conclusions from the articles as their own. This is impermissible. For the reasons set forth herein, both the Novel Biosolids Hypothesis as well as the underlying methods used to support it are not sufficiently scientifically reliable. Accordingly, the Court must exercise its broad gatekeeping power to exclude any and all testimony based on or parroting the Biosolids papers and their conclusions.

LEGAL STANDARD

In *Daubert*, the Supreme Court held that “Federal Rule of Evidence 702 imposes a special obligation upon a trial judge to ‘ensure that **any and all scientific testimony** ... is not only relevant, but reliable.’” *Kumho Tire Co. v. Carmichael*,

⁵ Because Plaintiffs do not intend to call these experts at trial, the Court may consider the declarations of Dr. Shawn McElmurry and Dr. David Madigan even though they were not previously disclosed as experts. *See In re Paoli R.R. Yard PCB Litig.*, 35 F.3d 717, 738-39 (3d Cir. 1994).

526 U.S. 137, 147 (1999) (quoting *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 589 (1993) (emphasis added)).⁶ This means that all scientific testimony must be **“based on sufficient facts or data,”** be **“the product of reliable principles and methods,”** and must be the result of the expert **“reliab[ly] appl[y]ing the principles and methods to the facts of the case.”** Fed. R. Evid. 702(b)-(d) (emphasis added). Under this Rule, “district courts must act as gatekeepers to protect juries from misleading or unreliable expert testimony by assessing the reliability of the expert’s principles and methodologies used to reach the expert opinion or conclusion.” *Deal v. Hamilton Cnty. Bd. of Educ.*, 392 F.3d 840, 851 (6th Cir. 2004).

ARGUMENT

I. **THE NOVEL BIOSOLIDS HYPOTHESIS AND THE METHODS EMPLOYED TO SUPPORT IT ARE NOT RELIABLE AND THEREFORE MUST BE EXCLUDED**

A. **The Novel Hypothesis is not based on reliable methods; the methodology is fundamentally flawed.**

In their 2019 and 2020 articles, Edwards, Roy and Tang advance the Novel Biosolids Hypothesis and claim that the methodology they employed demonstrated a “strong[.]” correlation between the lead in biosolids and the water lead levels in Flint. Ex. 1, (2019 Biosolids Paper) at 478 & Figure 2. This purported “strong” correlation, however, was *only* achieved by employing what the authors themselves

⁶ Unless indicated otherwise, case quotes are cleaned up, i.e., internal quotation marks and citation marks are omitted.

referred to as a “novel approach” and a “novel assessment” that included several critical methodological choices, which are fundamentally flawed and not generally accepted in the fields of statistical analysis, civil, or environmental engineering, rendering it unreliable for purposes of admission into evidence. *See Ellipsis, Inc. v. Color Works, Inc.*, 428 F. Supp. 2d 752, 760 (W.D. Tenn. 2006) (testimony must be excluded as unreliable “if it is fundamentally flawed or unsupported”).

i. Faulty Application of a Purported “One Month Offset”

First, Edwards and his co-authors applied what they referred to as a “one month offset” between water lead level data from Virginia Tech’s citywide sampling and biosolid data from the FWWTP. The authors assert that this offset **was necessary to account for the two-week lag time** needed for lead levels present in tap water to be reflected in biosolid sludge deposited at the plant. Accordingly, they paired the Virginia Tech water lead level data with the biosolids data from the *following month*.⁷

However, this method is fatally flawed and unreliable because it ignores the actualities of the water lead level testing. *See Brill v. Marandola*, 540 F. Supp. 2d 563, 568 (E.D. Pa. 2008) (“expert testimony that ignores existing data and is based on speculation is inadmissible.”). As set forth by the Virginia Tech water sampling

⁷ “For example, water samples collected from homes throughout the month of August 2015 were paired with total lead mass in biosolids early September.” Ex. 1, (2019 Biosolids Paper) at 477.

team, the sampling campaigns may have started in a certain month, *but they extended well into the following month*.⁸ As such, Edwards’ and his co-authors’ method of comparing water data to biosolids data from the *following month* **did not actually account for the biosolid lag time**. Ex. 3, (Madigan Decl.) at ¶¶17–20; Ex. 4, (McElmurry Decl.) at ¶18. Rather, to account for the actualities of the data and truly account for the biosolid lag time, the authors needed to compare water lead level data to the biosolid data from the following two months.⁹

As explained by Dr. Madigan, when this flawed methodological choice is undone, the claimed correlation underlying the Novel Biosolid Hypothesis disappears. Ex. 3, (Madigan Decl.) at ¶20 & Figure 1.¹⁰ Further, if the offset advocated by the authors was properly applied to the actual realities of the water testing data (the fact that the sampling campaigns started in a certain month but

⁸ For example, the August 2015 water sampling campaign **started** on August 20, 2015, **but it lasted until** September 10, 2015. This trend was specifically known by the authors of the study. *See Feb 1, 2016 Comment by Siddhartha Roy, [Complete Dataset] Lead results from Tap Water Sampling in Flint, MI, FLINTWATERSTUDY* (Feb. 1, 2016, 6:50 PM), <https://flintwaterstudy.org/2015/12/complete-dataset-lead-results-in-tap-water-for-271-flint-samples/>.

⁹ In other words, to achieve the one month offset advocated by Edwards, the “August, 2015” water lead level data – which ran through September 10, 2015 – should have been compared to the October, 2015 biosolids data. Ex. 3, (Madigan Decl.) at ¶¶25–26).

¹⁰ The authors failure to disclose both the reality of the water testing — along with the disappearance of the correlation (known to the authors) — and the fact that when this methodologically flawed choice is undone casts serious concern on its credibility. Ex. 4, (McElmurry Decl.) at 6, FN5.

extended into the following month) then a *two-month offset* should have been applied. This application would have actually yielded a **negative correlation**, and thus, disproves the Novel Biosolids Hypothesis. *See* Ex. 3, (Madigan Decl.) at ¶¶25-26 & Figure 4

ii. Mismatched Correlation of Mass to Concentration

Second, Edwards and his co-authors converted the biosolids lead data provided to them by the MDEQ from concentration measurements to mass measurements. As such, they compared the *estimated* amount of lead mass in biosolids to the lead level concentrations in water (rather than the *known* lead concentration in biosolids to lead concentration in water). This method is fatally flawed and unreliable because the authors inexplicably deviated from the best practices of an apples-to-apples comparison of lead in water data and lead in biosolids data. Ex. 3, (Madigan Decl.) at ¶15, ¶¶21–22; Ex. 4, (McElmurry Decl.) at ¶19; *Loeffel Steel Prods. v. Delta Brands, Inc.*, 387 F. Supp. 2d 794, 812 (N.D. Ill. 2005) (explaining that “care must be taken to be sure that the comparison is one between apples and apples” and finding that using samples that were not “truly comparable” amounts to a comparison between “apples and oranges” which fails to meet *Daubert*’s reliability standard); *State Farm Fire & Cas. Co. v. Electrolux Home Prods., Inc.*, 980 F. Supp. 2d 1031, 1049-50 (N.D. Ind. 2013) (“analysis suffered from a reliability flaw because [expert] had not confirmed that her analysis was

comparing apples to apples rather than apples to oranges”); *Downs v. Perstorp Components, Inc.*, 126 F. Supp. 2d 1090, 1127 (E.D. Tenn. 1999) (“[I]f an expert’s methodology cannot be explained in objective terms, and is not subject to be proven incorrect by objective standards, then the methodology is presumptively unreliable.”).

Again, just like the undoing of the flawed methodological choice of employing a one month offset, if the proper *concentration to concentration* (apples to apples) comparison is done, then the purported positive correlation disappears. Ex. 3, (Madigan Decl.) at ¶¶21–23 & Figure 2.

iii. Arbitrary Weighted Average of Water Lead Level Data

Finally, in choosing data points for water lead levels, Edwards and his co-authors – instead of using the actual data from the Virginia Tech testing campaigns – made the flawed methodological choice to use a weighted average of one-third of each of three testing draws.¹¹ Despite the authors’ claim to the contrary, this methodological choice was unsupported.¹² More significantly, it was fatally flawed

¹¹ See Ex. 3, (Madigan Decl.) at ¶27 (explaining that in order to provide a valid comparison with the total mass of lead in the biosolids, it would have to be shown that each of the three draws contributed equally and representatively to the total amount of water carrying lead to the Flint Wastewater Treatment Plant); Ex. 4, (McElmurry Decl.) at ¶20 (“Based on the volumes sampled, weighting would be 61.5%, 30.8% and 7.7%, for the first, second, and third samples, respectively.”)

¹² As discussed by Dr. McElmurry, the source cited by Roy & Edwards for this methodological choice, not only fails to endorse or support it – it fails to even mention it. Ex. 4, (McElmurry Decl.) at ¶21, ¶23.

because it is based on the unsupported assumption that the second draw usually has the highest lead level. Ex. 1, (2019 Biosolids Paper) at 477. This assumption, however, is completely contradicted by the actual Virginia Tech water lead level data, which clearly shows that the *First Draw had the highest* lead levels; the *Second Draw was significantly lower*, and the Third Draw was even lower. Ex. 3, (Madigan Decl.) at ¶15, ¶¶27–28; Ex. 4, (McElmurry Decl.) at ¶¶23–24; *see Daubert. Nagle v. Tubular Steel, Inc.*, 662 F. Supp. 3d 769, 773 (E.D. Mich. 2023) (“It is well-established that such arbitrary and unexplained assumptions by experts are not sufficient under *Daubert* []”). Thus, the decision to use the arbitrary weighted average is not only significantly flawed because it is based on an unexplained assumption, but it also contradicts the very study upon which it relies. *See Greenwell v. Boatwright*, 184 F.3d 492, 497 (6th Cir. 1999) (“Expert testimony, however, is inadmissible when the facts upon which the expert bases his testimony contradict the evidence.”).

In sum, without the data manipulation set forth above, and when the flawed methodological choices are corrected, not only is the purported strong correlation between water lead levels and biosolids destroyed, but it is **entirely contradicted**. Indeed, the results **actually yield a negative correlation** between water lead levels and lead in biosolids. Ex. 3, (Madigan Decl.) at ¶24 & Figure 3, ¶26.

B. The Novel Hypothesis is not based on reliable principals: the methodology constitutes data manipulation and is overall not generally accepted.

i. Data Manipulation

Moving past the flaws of the individual methodology employed, the correlation analysis fails reliability on a broader scale as well. The essence of the Novel Hypothesis is that lead in biosolids could be used as a valid and accurate surrogate for lead in water in the absence of reliable water testing. Therefore, “[f]or this hypothesis to be valid, when reliable water testing shows ... decreasing lead levels, the levels of lead in biosolids should likewise decrease.” Ex. 3, (Madigan Decl.) at ¶29. However, the data from the actual testing of the water shows the opposite. The Virginia Tech water testing shows that the levels of lead in water dramatically decreased after August 2015. Yet, over the same period, the level of lead in biosolids (whether by mass or by concentration) was either stable or actually trended in the **opposite direction**. *Id.* at ¶29–31 & Figure 5.

This shows that the Novel Biosolids Hypothesis and the methodology employed to support it fails the *Daubert* reliability indicia as “there is simply too great an analytical gap between the data and opinion proffered.” *General Elec. Co. v. Joiner*, 522 U.S. 136, 146 (1997). Indeed, as set forth above, the purported “strong” correlation can **only** be achieved by manipulating the underlying data or using specific data constraints. Altogether, the above irrefutably establishes that

reliable scientific conclusions cannot be derived from the Novel Biosolids Hypothesis, Ex. 4, (McElmurry Decl.) at 5 FN4, ¶30, and it must therefore be excluded. *See In re Johnson & Johnson Talcum Powder Prods. Mktg., Sales Practices & Prods. Litig.*, 509 F. Supp. 3d 116, 141 (D.N.J. 2020) (evidence must be excluded when there is evidence that “expert manipulated data to achieve a specific result”); *Rojas v. Marko Zaninovich, Inc.*, No. CIV-F-09-0705 AWI JLT, 2011 U.S. Dist. LEXIS 146800, at *21 (E.D. Cal. Dec. 21, 2011) (“When data is improperly manipulated the resulting analysis is unreliable.”).

ii. Overall Failure to Employ Generally Accepted Methods

In assessing the reliability of expert evidence, courts consider “whether the theory or technique has been generally accepted in the particular scientific field.” *United States v. Semrau*, 693 F.3d 510, 520 (6th Cir. 2012). To that end, “[w]idespread acceptance can be an important factor in ruling particular evidence admissible,” and theories with only “minimal support within the community ... may be properly viewed with skepticism.” *Johnson v. Manitowoc Boom Trucks, Inc.*, 406 F. Supp. 2d 852, 863 (M.D. Tenn. 2005). Here, even if the specific methodical choices assessed above are valid (which they are not), neither the Novel Hypothesis nor the methodology employed to support it have achieved general acceptance. Ex.

4, (McElmurry Decl.) at ¶11, ¶¶15–16, ¶30.¹³ Moreover, the overall gerrymandering employed to achieve the positive correlation the authors published fails the test of scientific reliability and therefore makes it impossible for the Novel Hypothesis to constitute a generally accepted methodology. *Id.* at 5, FN3; ¶25.

Rather, to *reliably* support the Novel Hypothesis that biosolids can be a valid and accurate surrogate for water lead levels, the authors would have had to conduct proper testing and statistically significant reproductions based on data sets from multiple communities. Ex. 4, (McElmurry Decl.) at ¶¶15–16. Absent such validation and verification, and until it has been reproduced, adequately tested, and uncertainty or confidence intervals have been determined, the Novel Hypothesis and the methodology employed to support it cannot be relied on as a generally accepted methodology. *See* Ex. 4, (McElmurry Decl.) at ¶¶15–16; *see also Freeport-McMoran Res. Partners Ltd. Pshp. v. B-B Paint Corp.*, 56 F. Supp. 2d 823, 833 (E.D. Mich. 1999) (granting Daubert motion because, *inter alia*, expert “did not perform any scientific tests to confirm his conclusions and that he did not evaluate any margin of error”).

¹³ “[N]either the methodology itself, nor the novel hypothesis, has been generally accepted in the fields of drinking water engineering nor human exposure science. No governmental agency recommends, endorses, or employs it; and no accredited institution (to my knowledge) teaches it as a valid and accepted method of estimating the amount of lead in drinking water or potential exposure to it.” Ex. 4, (McElmurry Decl.) at ¶11.

In other words, while the work by Edwards, Roy and Tang may be sufficient to generate a “novel hypothesis,” it is not sufficiently scientifically reliable to base conclusions of lead exposure on. Ex. 4, (McElmurry Decl.) at ¶¶15–16. Moreover, one study in one community is not sufficient to declare that the Novel Biosolids hypothesis can be relied and generally accepted on to make determinations about a grave matter of public safety such as lead levels in public water supplies. *Id.*; see *Moore v. Ashland Chem. Inc.*, 151 F.3d 269, 276 (5th Cir. 1998) (*Daubert* “requires some objective, independent validation of the expert’s methodology. The expert’s assurances that he has utilized generally accepted scientific methodology [are] insufficient.”); *City of Pomona v. SQM N. Am. Corp.*, 750 F.3d 1036, 1047 (9th Cir. 2014) (“Under *Daubert*’s testability factor for scientific evidence, the primary requirement is that someone else using the same data and methods be able to replicate the results.”).¹⁴

C. The Novel Biosolids Hypothesis is not based on sufficient data: it overlooks crucial data and internal inconsistencies.

In addition to manipulating the data to support their Novel Hypothesis, Edwards and his co-authors also overlooked several important and necessary data points as well as internal inconsistencies in their own work. Worse yet, the kind of

¹⁴ It is important to note that the authors themselves also agree that their methodology is not generally accepted as they characterize it as a “novel approach” and a “novel assessment.” Ex. 1, (2019 Biosolids Paper) at 481; Ex. 2, (2020 Biosolids Paper) at 3024.

information they overlooked are of the type that an expert in their field would have reasonably included and relied upon. This is problematic because Rule 702 provides that *scientific testimony* must be “based on sufficient facts or data.” Fed. R. Evid. 702. And those facts and data “must be of a type reasonably relied upon by experts” in the particular field.” *In re Dow Corning Corp.*, 211 B.R. 545, 590 (Bankr. E.D. Mich. 1997).

i. Failed to Account for Storm Water Discharge

First, Edwards and his co-authors completely fail to account for the fact that the FWWTP functions as a *combined sewer system* that receives substantial stormwater and sewage discharge. Or the fact that it receives wastewater from multiple cities outside of Flint, including Burton, Genesee Township, and Mount Morris (none of which were impacted by the Flint Water Crisis as they received corrosion inhibited DWSD water throughout this period). Ex. 5, (Dr. Russel BW3 Rebuttal Report) at 10–11; Ex. 6, (Dr. Russel Class Rebuttal Report) at 64, 70. This data is of the kind that would be reasonably relied on by experts in the same field, because the inclusion of sewage solids from these other cities would have substantially influenced the amount and concentration of lead found in the Flint biosolid samples, especially during periods of heavy rainfall. *Id.* In advancing past the “novel hypothesis” stage, the control for such confounding factors is necessary. Ex. 4, (McElmurry Decl.) at ¶26, ¶27, ¶29.

Edwards and his co-authors knew of this possibility,¹⁵ yet they made no attempt to identify, acknowledge, or address the contributions of wastewater relevant to analyzing the Flint biosolids data. These actions fail to meet the *Daubert* standard of reliability. *See Barber v. United Airlines, Inc.*, 17 F. App'x 433, 437 (7th Cir. 2001) (affirming district court's exclusion of expert testimony because the expert "ignored certain facts and data, while accepting others"); *see also LeClercq v. Lockformer Co., No. 00 C 7164, 2005 U.S. Dist. LEXIS 7602*, at *15 (N.D. Ill. Apr. 28, 2005) (finding expert's failure to account for 17 annual effluent samples reflecting non-detect for contaminants—an uncontested and material fact—amounted to cherry-picking the facts and failed to satisfy *Daubert*).

ii. Ignored Reliable Data Related to Industrial Discharge

Next, Edwards and his co-authors ignore relevant data regarding the amount of industrial sources that could have contributed to the lead levels in the biosolids. They assert that: "less than 5% of the wastewater is derived from industry, which has largely eliminated its lead sources [] further increasing the likelihood that the lead captured in Flint biosolids is mostly derived from domestic plumbing release to potable water." Ex. 1, (Edwards Biosolids 2019) at 476. However, this figure of "less than 5%" was based **solely** on an estimate from an email exchange between Mark

¹⁵ Ex. 7, (Oct. 30, 2017 Email Exchange Between Edwards and Bincsik, VATECH_00001830–832).

Edwards and Robert Case. *Id.* Without explanation, the authors avoid best practices and fail to describe any effort to obtain the actual verifiable data that an expert in their field should have reasonably relied on: National Pollutant Discharge Elimination System (“NPDES”) permits of the surrounding industrial sites, or the Industrial Pretreatment Program (“IPP”) reports of the Flint Wastewater Treatment Plant itself. Ex. 4, (McElmurry Decl. ¶28, ¶29.; *see also* Ex. 5, (Dr. Russel BW3 Rebuttal Report) at 10; Ex. 6, (Dr. Russel Class Rebuttal Report) at 43, 62–64. This by itself warrants exclusion. *See Mohney v. USA Hockey, Inc.*, 138 F. App’x 804, 809 (6th Cir. 2005) (excluding expert testimony in part because expert used “estimates and assumptions” rather than “actual data”); *Brown v. Raymond Corp.*, 432 F.3d 640, 648 (6th Cir. 2005) (affirming exclusion of testimony of expert whose opinions were not based on empirical data).

iii. Internal Inconsistencies in the Biosolid Data

Lastly, there are unexplained internal inconsistencies that are revealed from Edwards’ initial review of the biosolid data that are of major concern as to the reliability of the entire study. In emails with Flint officials, Edwards states that: “[L]ead levels in the sludge did not really ever rise year on year until Jan[uary] [20]15, and then maybe not significantly until [April 2015 through September 2015]. Then, after switching back, lead content dropped to historical lows.” Ex. 8, (Oct. 28, 2017 Email from Edwards, VATECH_00082354). This conclusion entirely

contradicts what the Novel Hypothesis ultimately concludes—that the majority of increase in lead in biosolids occurred from July to September 2014. Ex. 1, (2019 Biosolids) at 481.¹⁶ This is tremendously problematic and in of itself warrants exclusion of the Novel Hypothesis. *See United States v. Smallwood*, No. 5:08-CR-38, 2010 U.S. Dist. LEXIS 108671, at *14-15 (W.D. Ky. Oct. 12, 2010), *aff'd*, 456 F. App'x 563 (6th Cir. 2012) (excluding expert testimony because the literature expert cited as well as his “own studies appear[ed] to contradict his opinion”).

Overall, it appears that the authors went out of their way to make “assumptions” in order to make their Novel Hypothesis “work” at every turn. *See* Ex. 9, (Draft of 2019 Biosolids Analysis, VATECH_00069856). This practice may be acceptable in creating a scientific hypothesis, but it is insufficient to base sufficiently scientifically reliable conclusions on, and it is certainly impermissible in a court of law. *See Tamraz v. Lincoln Elec. Co.*, 620 F.3d 665, 677 (6th Cir. 2010) (“what science treats as a useful but untested hypothesis the law should generally treat as inadmissible speculation”); *Newkirk v. Conagra Foods, Inc.*, 727 F. Supp. 2d 1006, 1021 (E.D. Wash. 2010) (“[S]cientists whose conviction about the ultimate conclusion of their research is so firm that they are willing to aver under oath that it

¹⁶ Veolia’s expert – Dr. Finley – acknowledged the inconsistency between what Edwards stated in the email and what he published in the article, but he could neither explain it nor did he make any effort to understand it. Likewise, Veolia’s other expert – Dr. Gagnon – could not explain this inconsistency either. *See* Section II, iii.

is correct prior to performing the necessary validating tests could properly be viewed [] as lacking the objectivity that is the hallmark of the scientific method.”).

Accordingly, the Court should exclude the Novel Biosolids Hypothesis as it is “simply a hypothesis presented in the guise of knowledge.” *Valentine v. Jones Lang LaSalle Ams., Inc.*, No. 13-cv-10888, 2014 U.S. Dist. LEXIS 138116, at *10 (E.D. Mich. Sep. 30, 2014)) (Levy, J.).

II. VEOLIA CANNOT PRESENT THE NOVEL HYPOTHESIS OR THE CONCLUSIONS THROUGH ITS RETAINED OR NON-RETAINED EXPERTS

Veolia attempts to present the Novel Hypothesis and the conclusions derived therefrom to the jury in multiple ways. But because the underlying methods, principals, and data reviewed utterly fail the reliability inquiry of Rule 703, the Court must exercise its “gatekeeping role” and exclude “**any and all testimony” and evidence** related to the Novel Hypothesis. *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 147; *Meemic Ins. Co. v. Hewlett-Packard Co.*, 717 F. Supp. 2d 752, 761 (E.D. Mich. May 13, 2010) (“Rule 702 imposes a ‘gatekeeping’ duty on district courts, which must exclude unreliable and irrelevant evidence.”). After all, [u]nder Daubert and its progeny, district courts must exercise a gatekeeping role in screening the reliability of expert testimony to **keep ‘junk science’ away from juries.**” *Thomas v. Novartis Pharm. Corp.*, 443 F. App’x 58, 60 (6th Cir. 2011) (emphasis added). Here, that gatekeeping role includes barring testimony from Dr. Edwards as a non-

retained expert as well as any of Veolia’s retained experts who purportedly reviewed or relied on the study.

i. Non-Retained Experts (Edwards)

Veolia’s non-retained expert disclosure claims that Edwards will testify specifically about the Novel Hypothesis as well as the implications of the conclusions derived therefrom regarding the Flint Water Crisis. Ex. 14 (Veolia’s July 2023 Non-Retained Expert Disclosure) at 27–35. However, because of the utter unreliability described above, if Edwards testifies at trial as a non-retained expert,¹⁷ the Court must exclude any and all references to the Novel Biosolids Hypothesis, his and his co-authors’ conclusions, and their work associated with the 2019 and 2020 papers. *See Thomas v.*, 443 F. App’x at 60 (upholding district court’s decision to exclude non-retained expert under *Daubert*); *Winger v. Jeffreys*, No. 19-cv-00236-SPM, 2021 U.S. Dist. LEXIS 227708, at *4 (S.D. Ill. Nov. 29, 2021) (“Even non-retained experts are subject to the admissibility requirements of Federal Rules of Evidence 702 and the Supreme Court’s holding in *Daubert*[.]”).¹⁸

¹⁷ Recently, the Court ruled that Veolia would be permitted to have Edwards testify as a non-retained expert if he came to testify live at trial. Otherwise, his prior deposition testimony will be admitted only as a fact witness. Veolia counsel has informed Plaintiffs and the Court that they will not call Edwards live, while simultaneously reserving the right to change that strategy at the time of trial.

¹⁸ *See also Lighthouse Ranch for Boys, Inc. v. Safepoint Ins. Co.*, No. 22-1988, 2023 U.S. Dist. LEXIS 49183, at *12 (E.D. La. Mar. 23, 2023) (“Moreover, even assuming that [the expert] is appropriately disclosed as a non-retained expert pursuant to Rule 26(a)(2)(C), her opinions are still subject to the requirements of

ii. Retained Experts (Relying on Edwards and his Co-Authors)

Hedging for the reality that Edwards may not testify at trial, Veolia attempts to introduce the Novel Biosolids Hypothesis and Edwards' and his co-authors' conclusions by having several retained experts, Dr. Graham Gagnon, Dr. Brent Finley, Dr. William Bellamy, and Dr. Sheldon Masters, rely on the Biosolids papers and those conclusions in generating their own opinions. *See* Ex. 10 (Table of Veolia BW3 Experts Opinions Based on Biosolids & Highlighted Excerpts from Veolia Expert Reports).

However, because the underlying methodology, principals, and data are unreliable for the reasons set forth above, all of Veolia's experts' conclusions flowing therefrom must be excluded. Indeed, "the district court may carefully review the studies on which proffered experts rely in forming their opinions[.]" *Amorgianos v. Amtrak*, 303 F.3d 256, 269 (2d Cir. 2002) (citing *GE v. Joiner*, 522 U.S. 136, 118 S. Ct. 512 (1997)). And "when an expert opinion is based on data, a methodology, or studies that are simply inadequate to support the conclusions reached, *Daubert* and Rule 702 mandate the exclusion of that unreliable opinion testimony." *Id.* at 266; *see also Heller v. Shaw Indus., Inc.*, 167 F.3d 146, 155 (3d Cir. 1999) ("the reliability analysis applies to all aspects of an expert's testimony: the methodology, the facts

Rule 702 and the standards of *Daubert*"); *U.S. Deutsch v. Novartis Pharm. Corp.*, 768 F. Supp. 2d 420, 425 (E.D.N.Y. 2011).

underlying the expert’s opinion, the link between the facts and the conclusion”); *Mohney v. USA Hockey, Inc.*, 300 F. Supp. 2d 556, 565 (N.D. Ohio 2004), *aff’d*, 138 F. App’x 804 (6th Cir. 2005) (“Under Rule 703, if the underlying data are so lacking in probative force and reliability that no reasonable expert could base an opinion on them, an opinion which rests entirely upon them must be excluded.”); *Guy v. Absopure Water Co., LLC*, 2023 U.S. Dist. LEXIS 184818, at *9 (E.D. Mich. Oct. 13, 2023) (same).

iii. Retained Experts (Simply Reiterating Edwards’ and his Co-Authors’ Conclusions)

Additionally, Veolia cannot backdoor in the conclusions derived from the Novel Biosolids Hypothesis by using their retained experts as proxies for Edwards and his co-authors. For example, Dr. Gagnon has an entire section of his report, which simply parrots the Novel Hypothesis. Specifically, in section 3.2 of his report — titled “Biosolids Data Has Demonstrated the Extent of Lead Release in Flint Over Time” — Gagnon merely regurgitates the results and figures from the papers, as well as the conclusions contained therein and their applicability to Flint. *See* Ex. 10, (Highlighted Excerpt of Dr. Gagnon Report) at pdf. page 6–12.

The same is true for Dr. Finley and Dr. Masters, both of whom copy and paste entire paragraphs and figures from the papers into their reports. *Id.* at pdf. page 15–17; 21–27. Meanwhile, Dr. Greenberg, a medical toxicologist, expressed that although he did not rely on or include the papers in his report, he was asked to read

them and may testify about them at trial—even though he is not an expert in biosolids and did not know anything about the underlying studies or data. Ex. 11 (Excerpt of Dr. Greenberg Deposition) at 66:7–67:1; 68:13-23; 69:10-20; 73:8-23.

These mouthpiece “opinions” by Veolia’s experts should be excluded for the reasons set forth above related to the study’s unreliability, but also because an expert “may not simply parrot what someone else thinks.” *Gould Elecs. Inc. v. Livingston Cnty. Rd. Comm’n*, No. 17-11130, 2020 U.S. Dist. LEXIS 216422, at *25 (E.D. Mich. Nov. 19, 2020). Indeed, even under the guise of Rule 703, Veolia cannot have their experts simply serve as a conduit for this otherwise impermissible testimony. *Deutz Corp. v. City Light & Power, Inc.*, No. 1:05-cv-3113-GET, 2008 U.S. Dist. LEXIS 110202, at *16 (N.D. Ga. Mar. 21, 2008) (“While Rule 703 permits an expert to rely on “facts or data” that are not otherwise admissible into evidence in forming his opinion, it does not permit an expert to simply parrot the opinions of other experts.”); *Loeffel Steel Prods.*, 387 F. Supp. 2d at 808 (“[W]hile Rule 703 was intended to liberalize the rules relating to expert testimony, it was not intended to abolish the hearsay rule and to allow a witness, under the guise of giving expert testimony, to in effect become the mouthpiece of the witnesses on whose statements or opinions the expert purports to base his opinion.”); *see also Brown v. Teledyne Cont’l Motors, Inc.*, 2007 U.S. Dist. LEXIS 18179, *8 (N.D. Ohio 2007).

This is true for all of Veolia's experts, but it is especially true for those who explicitly conceded that they did not review or verify the actual data underlying the biosolids study. *See Mohney*, 138 F. App'x at 809 (affirming the exclusion of the testimony of an expert who did not use "the actual data" in reaching his opinion). Indeed, Gagnon admitted he did not verify any of the data himself and merely accepted Edwards' analysis as is. Ex. 12, (Excerpt of Dr. Gagnon Deposition) at 173:6-24; 174-175:4; *see also id.*, at 240:12-242:10. Similarly, Finley explained that he had not reviewed the underlying data, had not done any independent evaluation of the reliability of the biosolids samples, is not an expert in biosolids, and was not familiar with the methods used in order to come to the conclusion that biosolids and water lead levels were correlated. Ex. 13, (Excerpt of Dr. Finley Deposition) at 13:18-14:4; 38:3-14; 20:12-17; 46:4-5. And finally Greenberg explained that essentially all he did was read the study. Ex. 11 (Excerpt of Dr. Greenberg Deposition) at 66:7-16; 68:13-16; 69:6-16; 73:8-23.

Further, when confronted with the evidence of unreliability set forth above, such as the failure to look beyond the assurances in an email for the amount of industrial waste contributions or the inconsistent findings, it became even more obvious that Veolia's experts made no attempts to test the reliability of the data or square any of the obvious inconsistencies. *See* Ex. 12, (Gagnon Depo Excerpt) at 195:1-196:3; 227:5-228:24; 239:23-240:10; Ex. 13, (Finley Depo Excerpt) at

13:18–14:4; 38:23–41:2; 43:14–44:11. Rather, they “blind[ly]” relied on and accepted the flawed methods and “manipulated data” of the Novel Biosolids Hypothesis. *Kitchen v. TTX Co.*, Case No. 97 C 5271, 1999 U.S. Dist. LEXIS 9975, at *7 (N.D. Ill. June 22, 1999); *In re TMI Litig.*, 193 F.3d 613, 716 (3d Cir. 1999), amended by 199 F.3d 158 (3d Cir. 2000) (“failure to assess the validity of the opinions of the experts he relied upon together with [] unblinking reliance on those experts’ opinions, demonstrates that the methodology [] used to formulate [] opinion was flawed under *Daubert* as it was not calculated to produce reliable results.”).

Therefore, all of Veolia’s experts’ opinions, which “simply regurgitate[]” the conclusions contained in the papers, or simply copy the figures therein must be excluded in their entirety. *Arista Recs LLC. v. Usenet.com Inc.*, 608 F.Supp.2d 409, 424 (S.D.N.Y. 2009); *Mercurio v. Nissan Motor Corp.*, 81 F. Supp. 2d 859, 863 (N.D. Ohio 2000) (if expert testimony “will do little more than regurgitate the conclusions of several journal articles he has read,” “it will not pass muster under *Daubert*”); *In re Corp. Res. Servs., Inc.*, 603 B.R. 888, 891 (Bankr. S.D.N.Y. 2019) (excluding expert opinion that was based on figures taken from a publication without any independent due diligence by the expert).

In sum, the Novel Biosolids Hypothesis and any and all conclusions derived therefrom must be comprehensively excluded from the Bellwether III trial as it is not based on reliable generally accepted methods, principals, or sufficient data. And

as such, any testimony regarding the Novel Hypothesis or its conclusions poses an enormous and powerful threat to confuse and mislead the jury. *See Daubert*, 509 U.S. 579 at 595.

CONCLUSION

Accordingly, the Court should exclude any and all testimony regarding the Novel Hypothesis, the conclusions contained in the paper and supplemental paper, as well as any opinions which flow from and or attempt to simply repeat those conclusions as their own.

Dated: April 22, 2024

Respectfully submitted,

LEVY KONIGSBERG LLP

/S/ COREY M. STERN

Corey M. Stern
Moshe Maimon
Melanie Daly
605 Third Ave., 33rd Floor
New York, New York 10158
(212) 605-6200

NAPOLI SHKOLNIK PLLC

/s/ HUNTER J. SHKOLNIK

Hunter J. Shkolnik
Paula Napoli
Patrick Lanciotti
360 Lexington Ave., 11th Floor
New York, New York 10017
(212) 397-1000

ATTORNEYS FOR BELLWETHER III PLAINTIFFS

CERTIFICATE OF SERVICE

I hereby certify that on April 22, 2024 I electronically filed this document and its attachments with the Clerk of the Court using the ECF System, which will send notification to the ECF counsel of record.

LEVY KONIGSBERG, LLP

/s/ Melanie Daly
Melanie Daly